THE WARBLER

AN EDUCATIONAL WEEKLY

ISSUE 92

JANUARY 13, 2022

Dear Student, Artist, Thinker,

Being from the South, **trains** have never really been an entity that I've interacted with much. Besides the obligatory coal train that is always placed much too close to my home and screams its way through the night, I have never had an opportunity to be around trains that much; an oddity considering the massive impact that trains have had upon our country.

The invention of the steam train jump started the Industrial Revolution, the transition to more organized and productive manufacturing processes in the US creating an economic boom. The conception of a steam engine allowed for the same travel of persons and goods across the country for the first time at almost 1/10 the amount of fuel. This change helped contribute to a great amount of infrastructure and self-described "railway mania" where 10,000 railways were created during this period to help mitigate the growing demand. Even today, the implementation of railways and trains remains an important contributor to many jobs and supply chains that can be largely unseen. Coal, for example, is the single greatest source of electricity in the U.S., and 70% of coal is delivered via train.

While in the south contact with trains is more of a rarity, in more urban settings such as New York and Chicago, trains are a vital part of people's day to day lives in the form of the subway system. While often the source of justified infrastructure complaints, over 4.3 million people ride the subway system every day; over 1 billion people go through the turnstiles per year, again emphasizing the quiet importance that trains play in many of our lives.

Although mainly thought of for a more utilitarian purpose of only transportation, trains still remain an important symbol of connection between people. Whether allowing a person to travel home or fostering an opportunity for a new meeting on a packed train car, trains represent a place of movement and reflection away from a more isolated world. American writer and children's book author, Elisha Cooper once said, "The train is a small world moving through a larger world."

We hope that you enjoy learning more about the history and even the current developments of this unique form of transportation in this edition of *The Warbler*.

Julia and the APAEP Team

WORDS INSIDE

FOUND INSIDE "HOW ABRAHAM LINCOLN'S ..."

meander | wander at random

novice | a person new to or inexperienced in a field or situation

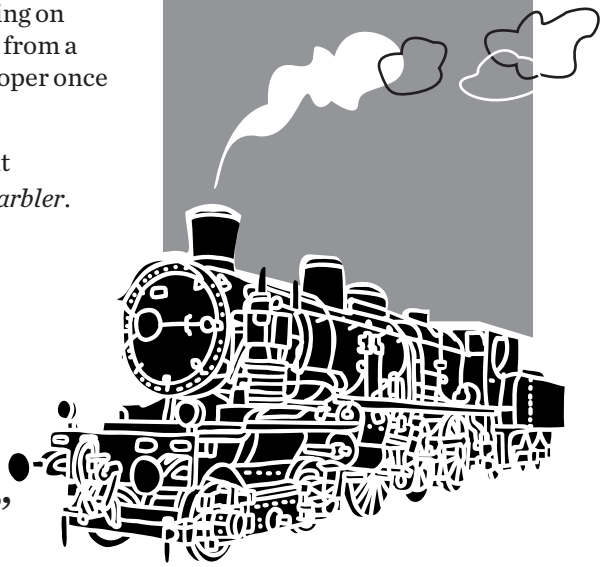
burgeoning | beginning to grow or increase rapidly; flourishing

laden | heavily loaded or weighed down

FOUND INSIDE "ON THIS DAY ..."

reconciled | cause to coexist in harmony; make or show to be compatible

inevitably | as is certain to happen; unavoidably



"A story is like a moving train: no matter where you hop onboard, you are bound to reach your destination sooner or later."

KHALED HOSSEINI // Afghan-American novelist and UNHCR goodwill ambassador

TECHNOLOGY

High-speed Rail

FROM RAILSYSTEM.NET

High-speed rail (HSR) is a type of passenger rail transport that operates significantly faster than the normal speed of rail traffic. Specific definitions by the European Union include 200 km/h (120 mph) for upgraded track and 250 km/h (160 mph) or faster for new track.

In Japan, Shinkansen lines run at speeds in excess of 260 km/h (160 mph) and are built using standard gauge track with no at-grade crossings. In China, high-speed conventional rail lines operate at top speeds of 350 km/h (220 mph). The world record for conventional high-speed rail is held by the V150, a specially configured version of Alstom's TGV which clocked 574.8 km/h (357.2 mph) on a test run.

Definition of high-speed rail

There are a number of different definitions for high-speed rail in use worldwide and there is no single standard, however there are certain parameters that are unique to high-speed rail. Organizations define high-speed rail as systems of rolling stock and infrastructure which regularly operate at or above 250 km/h on new tracks, or 200 km/h on existing tracks. However lower speeds can be required by local constraints. A definitive aspect of high speed rail is the use of continuous welded rail which reduces track vibrations and discrepancies between rail segments enough to allow trains to pass at speeds in excess of 200 km/h (120 mph). Depending on design speed, banking and the forces deemed acceptable to the passengers, curves radius is above 4.5 kilometers, and for lines capable for 350 km/h running, typically at 7 to 9 kilometers. There are also a number of characteristics common to most high-speed rail systems but not required: almost all are electrically driven via overhead lines and have in-cab signalling as well as no level crossings. Advanced switches using very low entry and frog angles are also often used.

Technology

KTX-Sancheon, a South Korean high-speed train at Seoul Station. Much of the technology behind high-speed rail is an improved application of mature standard gauge rail technology using overhead electrification. By building a new rail infrastructure with 20th century engineering, including elimination of constrictions such as roadway at-grade (level) crossings, frequent stops, a succession of curves and reverse curves, and not sharing the right-of-way with freight or slower passenger trains, higher speeds (250–320 km/h) are maintained. Total cost of ownership of HSR systems is generally lower than the total costs of competing alternatives (new highway or air capacity). Japanese systems are often more expensive than their counterparts but more comprehensive because they have their own dedicated elevated guideway, no traffic crossings, and disaster monitoring systems. Despite this the largest of the Japanese system's cost is related to the boring of tunnels through mountains, as was in Taiwan. Recent advances in wheeled trains in the last few decades have pushed the speed limits past 400 km/h, among the advances being tilting trainsets, aerodynamic designs (to reduce drag, lift, and noise), air brakes, regenerative braking, stronger engines, dynamic weight shifting, etc. Some of the advances were to fix problems, like the Eschede disaster. European high-speed routes typically combine segments on new track, where the train runs at full commercial speed, with some sections of older track on the extremities of the route, near cities.

In France, the cost of construction (which was €10 million/km (US$15.1 million/km) for LGV Est) is minimised by adopting steeper grades rather than building tunnels and viaducts. However, in mountainous Switzerland, tunnels are inevitable. Because the lines are dedicated to passengers, gradients of 3.5%, rather than the previous maximum of 1–1.5% for mixed traffic, are used. Possibly more expensive land is acquired in order to build straighter lines which minimize line construction as well as operating and maintenance costs. In other countries high-speed rail was built without those economies so that the railway can also support other traffic, such as freight. Experience has shown however, that trains of significantly different speeds cause massive decreases of line capacity. As a result, mixed-traffic lines are usually reserved for high-speed passenger trains during the daytime, while freight trains go at night. In some cases, night-time high-speed trains are even diverted to lower speed lines in favour of freight traffic. ●

"Many times the wrong train took me to the right place."

PAULO COELHO // Brazilian lyricist and novelist

Edited for clarity

HISTORY

6 Ways the Transcontinental Railroad Changed America

BY PATRICK J. KIGER | *history.com* | September 4, 2019

1. It made the Western U.S. more important. "What the transcontinental railroad did was bring the West into the world, and the world into the West," explains James P. Ronda, a retired University of Tulsa history professor and co-author, with Carlos Arnaldo Schwantes, of The West the Railroads Made. In particular, it helped turn California from a once-isolated place to a major economic and political force, and helped lead to the state's rapid growth.

2. It made commerce possible on a vast scale. By 1880, the transcontinental railroad was transporting $50 million worth of freight each year. In addition to transporting western food crops and raw materials to East Coast markets and manufactured goods from East Coast cities to the West Coast, the railroad also facilitated international trade.

The first freight train to travel eastward from California carried a load of Japanese tea. "The Constitution provided the legal framework for a single national market for trade goods; the transcontinental railroad provided the physical framework," explains Henry W. Brands, a history professor at the University of Texas at Austin. "Together they gave the United States the single largest market in the world, which provided the basis for the rapid expansion of American industry and agriculture to the point where the U.S. by the 1890s had the most powerful economy on the planet."

3. It changed where Americans lived. During the railroad's construction, numerous temporary "hell on wheels" towns of tents and wooden shacks sprung up along the route to provide living quarters for workers. Most of them eventually disappeared, but others, such as Laramie, Wyoming, evolved into towns that provided rail terminals and repair facilities. Additionally, about 7,000 cities and towns across the country began as Union Pacific depots and water stops. And, as Ronda notes, the first transcontinental railroad and the other lines that followed made it easy for immigrants to spread across the nation. "People come across the Atlantic on ships, get on trains, and end up in places such as western Nebraska," he says.4 It altered Americans' concept of reality.

In an 1872 article, naturalist John Muir wrote that the transcontinental railroad "annihilated" time and space. As Ronda explains, it changed the way that people viewed distances. "When you're walking or riding a horse, you experience the world one way, but when you're sitting in a railroad car, you see it differently," he says. "In the West, where the distances are so great, the railroad brought near and far closer together." The railroad schedules also helped to push the United States into changing how it marked time, leading to the adoption of standard time zones in 1883.

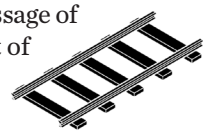
4. It helped create the Victorian version of Amazon. In 1872, just a few years after the transcontinental railroad's completion, Aaron Montgomery Ward started the first mail-order catalog business. As Ronda notes, the first transcontinental railroad — and other transcontinental lines that followed — made it possible to sell products far and wide without a physical storefront,.

5. It took a heavy toll on the environment. The massive amount of wood needed to build the railroad, including railroad ties, support beams for tunnels and bridges, and sheds, necessitated cutting down thousands of trees, which devastated western forests. Towns and cities that sprung up along the railroad further encroached upon what had been wild areas. And the railroad and other rail routes that followed made it easy for large numbers of hunters to travel westward and kill millions of buffalo. That slaughter impacted Native Americans, who had hunted buffalo in moderation, and weakened their resistance to settlement of the west.

6. It increased racial conflicts. The completion of the transcontinental railroad led to heightened racial tensions in California, as white workers from the East Coast and Europe could more easily travel westward where immigrant laborers were prevalent, says Princeton University Assistant Professor of History Beth Lew-Williams.

Upon completion of the railroad, many Chinese workers returned to California in search of employment. "The flood of goods and laborers who arrived in the West, combined with the boom and bust economy of the late-19th century, put pressure on the labor market," she says. "The presence of Chinese immigrants did not create the economic uncertainties of the 1870s, but they were often blamed nonetheless."

Growing prejudice against and fear of the Chinese eventually manifested itself in Congress' passage of the Chinese Exclusion Act of 1882, the first of several laws that blocked Chinese laborers from entering the United States until 1943. ●



"A creative train of thought is set off by: the unexpected, the unknown, the accidental, the disorderly, the absurd, and the impossible."

ASGER JORN // Danish painter, sculptor, ceramic artist, and author

Edited for space and clarity

MATHEMATICS

Sudoku

#183 PUZZLE NO. 266539

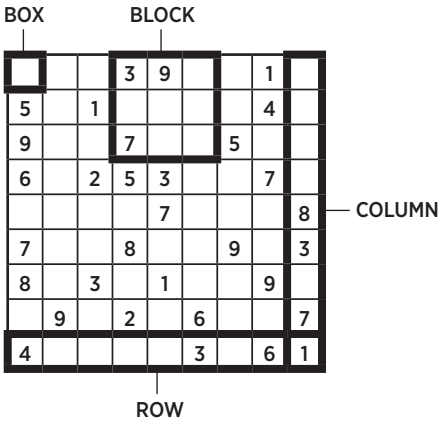
			9				4	
		9					1	5
		2				9		
	5					3		
7			3		6			
3					5	8		
		4			7			6
2				1		4		
	8		2	9		5		

#184 PUZZLE NO. 9767578

2				8				
8				1		9		5
		1				3		4
	5		9					
				4	2		6	1
		7			3			
5	1			9				
			2		4			
3		6					4	

SUDOKU HOW-TO GUIDE

1. Each block, row, and column must contain the numbers 1–9.
2. Sudoku is a game of logic and reasoning, so you should not need to guess.
3. Don't repeat numbers within each block, row, or column.
4. Use the process of elimination to figure out the correct placement of numbers in each box.
5. The answers appear on the last page of this newsletter.



What the example will look like solved

2	4	8	3	9	5	7	1	6
5	7	1	6	2	8	3	4	9
9	3	6	7	4	1	5	8	2
6	8	2	5	3	9	1	7	4
3	5	9	1	7	4	6	2	8
7	1	4	8	6	2	9	5	3
8	6	3	4	1	7	2	9	5
1	9	5	2	8	6	4	3	7
4	2	7	9	5	3	8	6	1

"Sometimes the light at the end of the tunnel is a train."

CHARLES BARKLEY // American basketball player and television analyst

DID YOU KNOW?

James Watt didn't invent the steam engine, but he did create the world's first modern one, and developed the means of measuring it's power. The term **"horsepower"** was actually originally a marketing tool but was used as a means of measuring Watt's newly built ship's power. It's a unit based off of how much power a horse working in a mill could produce over a period of time.

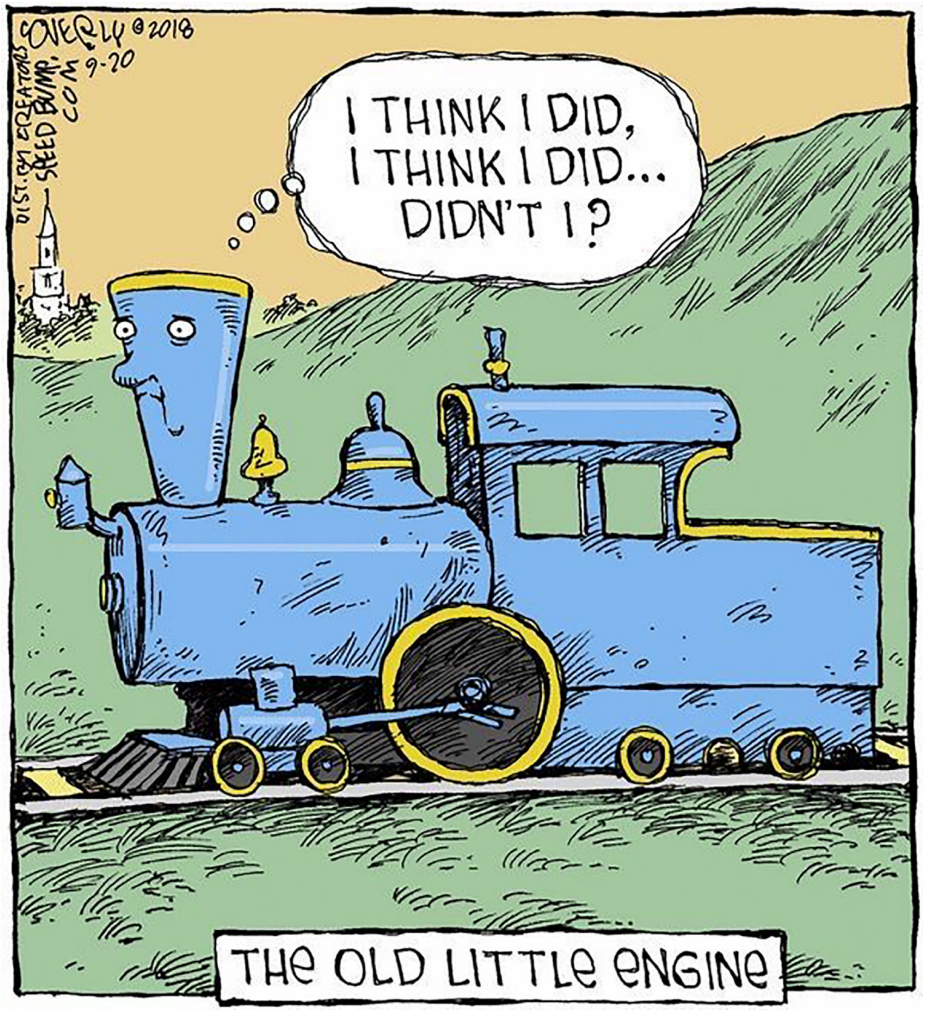
America's **first steam locomotive** lost a race to a horse.

Trains helped the North win the American Civil War. General William Tecumseh Sherman destroyed thousands of miles of Confederate rails, leaving heaps of heated and twisted iron that were referred to as **Sherman's neckties**.

The miles of railroad track in the US peaked in 1916 with over **250,000 miles** of track.

Today's bullet trains can top **300 miles per hour**.

Source: history.com/news/8-things-you-may-not-know-about-trains



© Dave Coverly

"It doesn't matter which side of the tracks you're from, the train still rolls the same."

ROBERT M. HENSEL // Disability activist, American poet and Guinness World Record holder

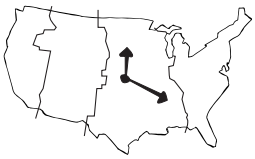
Idiom

"Riding a gravy train"

Meaning Something that generates considerable reward with minimal effort.

Origin In the 1920s, railroad men invented the express to 'ride the gravy train' to describe a run on which there was good pay and little work. The words were quickly adopted into general speech, meaning to have an easy job that pays well, or, more commonly, to be prosperous. 'Gravy,' however, had been slang for easy money since the early 1900s.

Source: https://english.stackexchange.com



RAILROADS GAVE US **STANDARDIZED TIME ZONES**. THESE WERE SET AT A CONVENTION FOR MAJOR RAILROAD REPRESENTATIVES IN 1883.

ART + CULTURE

Station

BY REBECCA MORGAN FRANK

Your attention please.
Train number 9, The Northern Zephyr,
destined for River's End, is now boarding.
All ticketed passengers
please proceed to the gate marked *Evening*

Your attention please. Train number 7,
Leaves Blown By, bound for The Color of Thinking
and Renovated Time, is now departing.
All ticketed passengers may board
behind my eyes.

Your attention please. Train number 4, The Twentieth Century,
has joined The Wind Undisguised to become The Written Word.

Those who never heard their names
may inquire at the uneven margin of the story
or else consult the ivy
lying awake under our open window.

Your attention please, The Music,
arriving out of hidden ground
and endlessly beginning, is now the flower,
now the fruit, now our cup and cheer
under branches more ancient
than our grandmother's hair.

Passengers with memories of the sea
may board leisurely at any unmarked gate.

Fateful members of the foam may proceed to azalea.

Your attention please.
Under falling petals, never think about home.
Seeing begins in the dark.
Listening stills us.
Yesterday has gone
ahead to meet you.

And the place in a book a man stops reading
is the place a girl escaped
through her mother's garden.

And between paired notes of the owl,
a boy disappeared. Search for him
goes on in the growing shadow of the clock.

And the face behind the clock's face
is not his father's face.

And the hands behind the clock's hands
are not his mother's hands.

All light-bearing tears may be exchanged
for the accomplished wine.

Your attention please. Train number 66,
Unbidden Song, soon to be
the full heart's quiet, takes no passengers.

Please leave your baggage with the attendant
at the window marked *Your Name Sprung from Hiding*.

An intrepid perfume is waging our rescue.

You may board at either end of Childhood.

Li-Young Lee was born in Djakarta, Indonesia in 1957 to Chinese political exiles. Though his father read to him frequently as a child, Lee did not begin to seriously write poems until a student at the University of Pittsburgh, where he studied with Gerald Stern. He has taught at several universities, including Northwestern and the University of Iowa. He lives in Chicago, Illinois, with his wife and their two sons.

WRITING PROMPT

In any format, stories of journeys have always been a renowned in literature. Whether it's the 10-year sea voyage of Odysseus trying to return home in 8th century BCE or even the idea of moving through time with H. G. Wells' "The Time Machine," people have always been fascinated by the change travel has on us. For this week, use this idea of examining the process of travel in a poem, short story, or creative non-fiction essay.

Word Search

L	V	P	A	S	S	E	N	G	E	R	L	D	N
V	S	E	E	P	S	E	A	E	A	E	O	A	D
U	T	S	T	Z	T	L	I	V	Y	I	R	A	A
E	A	T	A	O	C	E	U	C	S	E	R	N	W
O	Z	G	A	P	I	A	A	S	A	A	O	P	O
G	S	T	Z	N	A	C	T	T	L	O	S	I	D
R	E	S	E	R	S	A	E	A	A	T	E	L	N
W	Y	E	A	L	A	Y	L	T	S	A	D	N	I
B	B	T	V	Z	U	S	A	I	E	D	A	A	W
N	E	A	T	N	A	T	S	O	A	O	E	S	P
S	L	G	A	A	E	L	A	N	E	Y	C	D	I
B	O	A	R	D	G	P	E	S	N	R	D	S	A
T	N	D	W	E	I	A	P	A	T	T	T	O	E
P	E	T	A	L	S	S	T	N	E	I	V	T	R

RESCUE
GATE
SEA
AZALEA
PASSENGER
STATION
WINDOW
IVY
BOARD
PETALS

PROGRESSION

Ready for the Road!

Come Monday morning, members of Jamaica's student population going into Kingston will be offered another means of transportation — the rail service.

BY BALFORD HENRY | *Jamaica Observer* | January 7, 2022

This comes seven months after Transport and Mining Minister Robert Montague told Parliament that his ministry was working to accommodate a rail service for students in St Catherine.

He is hoping to not only provide a service in St Catherine, but to expand it over time.

"This is not talk; this is a clear demonstration of the will of this Government to build back stronger," he told guests at the recent launch of the new service, Jamaica Railway Corporation's (JRC) "Back on Track School Train Service," at his Kingston office.

He also pointed out that the train had gone on a test run from Spanish Town to Linstead and back the week before.

He explained that under the agreement, the Jamaica Urban Transit Company (JUTC) buses will pick up students at the Spanish Town Railway Station and drop them off at various schools in Spanish Town, and the reverse would take effect in the afternoons at the end of school.

He said that the service would be available to St Catherine high school students. However, he said that his hope is really that the JRC will be able to expand the service over time to accommodate more Jamaicans.

He also pointed out that the JRC has been working with the Jamaica National Heritage Trust (JNHT) to restore station houses, especially in Old Harbour, adding a renewed interest in the heritage sites along the route.

According to the acting general manager for the JRC, Donald Hanson, the corporation had been mandated to commence the train programme in time for the new school year, and that it would include Spanish Town to Old Harbour, and Spanish Town to Linstead, doing two round trips per day.

"I believe this is the start of something great," he told the press, noting that there is a possibility that a similar service could be created in the Corporate Area, linking Papine with Half-Way-Tree and Cross Roads.

Montague, like his predecessor at the Transport Ministry, Mike Henry, believes the rail service could provide an alternative means of transport for commuters across the island, if it gets the right funding.

Students waving on a Jamaica Railway Corporation train.

Photo: *Observer* file

"I said in Parliament that we are going to reintroduce passenger trains because, if we can use these lines for cargo, certainly we can use them for people, and I am seeing the reality of that happening right now," he stated.

Some 400 students will be able to use the St Catherine service daily, beginning Monday. They attend six of the main high schools — Jose Marti, Jonathan Grant, St Catherine High, St Jago, Innswood, and Spanish Town High. The students were selected by the schools and were given a card to travel on the trains. All students using the service are on the Programme of Advancement Through Health and Education (PATH).

Successive governments have been severely criticised for putting the country's railway system to sleep.

One critic had suggested that it was a lack of interest in the trains by successive governments since Independence in 1962 that crippled the service, and led to the country's dependence on private buses and route taxis to transport the citizenry. A system which most urban commuters believe is way below what is expected of urban areas like Kingston and St Andrew, for example.

Despite several attempts by Mike Henry as transport minister, including critical test runs for the trains in St Catherine and Clarendon, the system closed down. ●

Edited for space

WORD PLAY A Rebus puzzle is a picture representation of a common word or phrase. How the letters/images appear within each box will give you clues to the answer! For example, if you saw the letters "LOOK ULEAP," you could guess that the phrase is "Look before you leap." *Answers are on the last page!*

HISTORY

How Abraham Lincoln's Funeral Train Journey Made History

On the 150th anniversary of that trip, historian Adam Goodheart reflects on the rail splitter's special connection to railroads.

BY ADAM GOODHEART | *National Geographic* | April 18, 2015

In the 1860s America's rail system was a tangle of small local lines. Two dozen different locomotives—including this one in Ohio—drew Lincoln's funeral train.

Photograph by Buyenlarge, Getty Images

Several months ago, at the behest of National Geographic, I retraced the route of Abraham Lincoln's funeral train from Washington, D.C., halfway across the continent to his final resting place in Springfield, Illinois.

Early in my pilgrimage, I found a railroad spike in the weeds along a section of abandoned tracks. I knew it couldn't date back to the 1860s — it was probably a few decades old — but nonetheless, I kept it in the cupholder of my car for the next 1,500 miles. I liked its look, somehow both industrial and homemade, roughened and angular — Lincolnesque. It seemed to evoke not just the fallen leader's final journey, but also his legacy as America's great "railroad president."

On the drizzly morning of April 19, 1865, when the train carrying the murdered president's coffin pulled out of Washington's central depot, it embarked on a journey that resonated deeply with many chapters of his life.

In a sense, Lincoln and the new technology had come of age together in the 1830s, the first decade of major American railroad construction. As a 27-year-old novice state legislator, he was already advocating the construction of new train lines, and later served as an attorney for the Illinois Central and other companies.

In 1861, when it came time for him to journey to Washington for his first inauguration — traveling farther to reach the White House than any previous president-elect — Lincoln did so on a meandering rail journey through the midwestern and northern states. As he traveled, he made speeches to reassure his fellow Americans that the nation would be saved.

But the trip itself also stood as a powerful statement of union — a reminder of the 30,000 miles of steel that already bound the nation together, of the burgeoning industrial economy that was vaulting the North ahead of the South, and of Republican plans (long blocked by the slaveholding states) to build a transcontinental line joining Atlantic to Pacific.

Four years later, the funeral trip bearing Lincoln home for burial in Springfield, Illinois, was consciously designed to recall the earlier journey. Its route resonated in other ways as well.

During the second day of travel, as it crossed the border between Maryland and Pennsylvania, the train rode over tracks that just a few years earlier had been used by slaves illicitly riding the Northern Central Railway to freedom. During the Civil War, trains laden with wounded soldiers often passed here as well, trundling their human burden from Virginia battlefields to the Union military hospitals in Philadelphia and York, Pennsylvania.

Part of that stretch still survives, and has recently been resurrected for a replica 1860s train called Steam Into History, which carries tourists over ten miles of track. Hitching a ride aboard the locomotive, I was reminded of how new and jarring an invention it must still have seemed a century and a half ago.

We chuff noisily through the sweet green stillness of the Pennsylvania fields — a hot, shrill, urgent machine snorting metallic fumes. After 20 minutes, my head aches. We pass an old man with a hoe in a vegetable patch, a gaggle of waving kids, a teenager holding up his iPad to record video. Our train is history passing by. On a far larger and more intense scale, Lincoln's funeral journey must have felt like this.

Connecting a Nation

It was also an unprecedented technical feat. Before the Civil War, America's rail system was a patchwork of small local lines, many using different gauges of rail, necessitating frequent changes of engines and

cars. On the 1865 trip, however, two cars made the entire journey, coupled and uncoupled repeatedly from different locomotives. One of those two was the "officers' car," carrying high-ranking military personnel and members of the Lincoln family. The other was the funeral car itself. Dubbed the *United States,* it had actually been designed to carry the living Lincoln — but in a tragic twist, he was fated to ride on it only in death.

The United States Military Railroads had completed it in February 1865 as a lavish presidential office on wheels, a sort of 19th-century version of Air Force One, with elaborately painted and gilded wood and etched glass, and wheels designed to accommodate tracks of varying gauges. For the funeral trip, it was draped inside and out in heavy black cloth fringed with silver. Together with the president's body, the *United States* also carried homeward that of Willie Lincoln, who had died in Washington in 1862, age 11, and was exhumed to be reburied alongside his father.

The train's passage through towns and villages, usually in darkness, was an unparalleled event. "As we sped over the rails at night, the scene was the most pathetic ever witnessed, wrote one member of the entourage. "At every cross-roads the glare of innumerable torches illuminated the whole population from age to infancy kneeling on the ground, and their clergymen leading in prayers and hymns."

Especially in the rural Midwest, ordinary Americans felt a connection with Lincoln that went beyond just the tragedy of his assassination. Like him, they had suffered the agonies and triumphs of four years of war, and this emotional journey was bound up with memories of the railroad, too. It was at the local depots — the same ones where the funeral train now passed — that, long before, many had caught their last glimpses of sons and brothers who would never return. It was here that civilians brought the bandages and clothing, food and flags, that they contributed to the war effort. It was here that the first news of defeats and losses on distant battlefields arrived, carried by the telegraph lines that ran along the tracks.

Both the telegraph and the train are now gone from most of the rural Midwest, where many local lines closed in the late 20th century, after steadily dwindling use due to competition from interstate highways. Many old villages that grew up around rural depots are now dwindling as well. The train yards where bonfires blazed in April 1865 are now nondescript parking lots shadowed by rusting grain silos.

For the 150th anniversary of the funeral journey, some people are resurrecting memories of when the *United States* carried history through the midwestern heartland. In Elgin, Illinois, I met David Kloke, the master mechanic who built Steam Into History's replica locomotive and was now completing a full-scale version of the funeral car. The original burned in a prairie fire in 1911, but Kloke studied period photographs, tracked down a few scattered fragments of wooden trim, and did paint analysis to reveal the original color scheme. "It's going to be beautiful, a dark maroon, almost chocolate color, with gold leaf," he told me.

On May 2, Kloke's *United States* will be in Springfield for a reenactment of the Lincoln funeral, two days shy of the actual sesquicentennial. A coffin — empty, of course — will be unloaded onto a horse-drawn hearse and driven to the old Illinois State House for an all-night vigil, then taken to Oak Ridge Cemetery the next day. As in 1865, the last few miles of the homeward journey will be by animal power, not steam. But the ghostly presence of the railroad, like that of the murdered president himself, will hover somewhere close at hand. ●

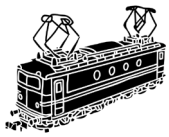
RANDOM-NEST

Types of Locomotives and Rails

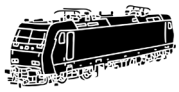
FROM *LOCOMOTIVES*

Steam locomotives | From the moment Matthew Murray produced first steam locomotive, the world of trains changed forever. This type of propulsion disappeared only after Diesel engines became undeniably cheaper and reliable.

Diesel locomotives | With the lowering prices of diesel fuel, and the increasing industrial pressure for transporting ever larger amounts of coal and goods, diesel engine locomotives became the predominant choice for trains after the end of WW2. Today they are mostly used in combination to electric engines.



Electric locomotives | Advances in electrical grid infrastructure and electric engine manufacture enabled trains to adopt electrical power as one of the most reliable sources of propulsion. Today electrical trains can be found everywhere, from city transit trains, subways, trams, to high speed rapid transit trains.



Combined engines | Many trains today use dual engines that can harness the power of electrical grid in urban areas and use diesel engine in more harsh terrains outside the cities.

TYPES OF RAILS

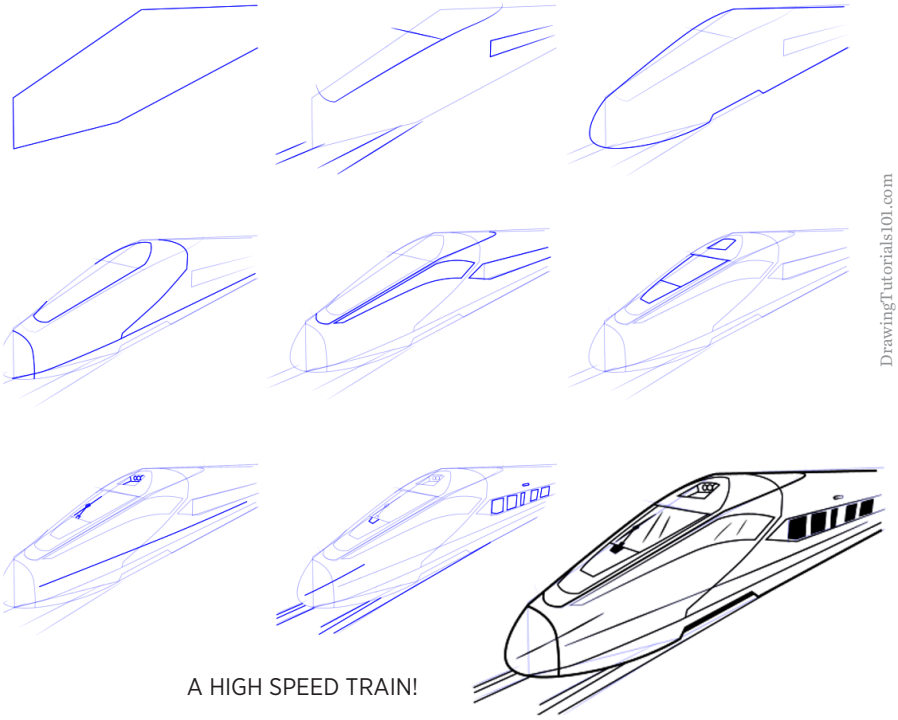
Common railway | From the first moments that steam engines started rolling across the fields of England, standard configuration of railway began spreading across the world. Today, they can be found almost everywhere.

Electrified railway | Even though electric locomotives electric locomotives were introduced to the public from the early 1800s, they became increasingly popular only after the introduction of alternating current toward the end of that century.

High speed rail | Advances in railway and train technologies enabled technicians to design new type of railway that is optimized for high speeds and smooth driving. These railways can be found in many high-speed train networks, especially in Japan, France and Spain.

Maglev | In distant 1937 German inventor Hermann Kemper patented railway system that uses power of the magnets to provide support for traveling locomotive and its trains. Today this system is often used for very expensive and high-speed railway lines.

HOW TO DRAW ...



A HIGH SPEED TRAIN!

WORDS OF ENCOURAGEMENT

We are like trains in that we are only able to move forward in time in the way that they are only able to move forward in space. All we know that we have is right here, right now. We are rounded and complete human beings despite how broken we may feel. We all have potential, regardless of anything behind us because all we have is what lies in front of us. With whatever unpredictable scenarios that lie in front of us, we can create meaning in it. I personally subscribe more to the notion that, in life, we create our own purpose. This can be altered to accommodate religious beliefs by centering a higher power in the viewpoint. My point is that we have something inherently special inside us: the desire for purpose which can't be taken away by anyone or anything. This is a core aspect of our humanity, and we have the ability to fill this need. You have endless potential. I mean this more in a spiritual sense. You have the potential to grow and understand yourself simply because you are human. That is what is beautiful about life. You will always be able to live into your humanity, whatever that means for you. I'm always honored to get to write letters to you in *The Warbler* because I believe in who you are and who you can be. I hope you enjoyed reading this week's newsletter, and I hope you have a great week. Cheers!

Taylor

1061 Beard-Eaves Memorial Coliseum // Auburn University, AL 36849

Answers

SUDOKU #163

1	3	7	9	5	8	6	4	2
8	6	9	4	3	2	7	1	5
5	4	2	7	6	1	9	8	3
4	5	1	8	2	9	3	6	7
7	2	8	3	4	6	1	5	9
3	9	6	1	7	5	8	2	4
9	1	4	5	8	7	2	3	6
2	7	5	6	1	3	4	9	8
6	8	3	2	9	4	5	7	1

SUDOKU #164

2	4	5	3	8	9	6	1	7
8	7	3	4	1	6	9	2	5
6	9	1	5	2	7	3	8	4
4	5	2	9	6	1	7	3	8
9	3	8	7	4	2	5	6	1
1	6	7	8	5	3	4	9	2
5	1	4	6	9	8	2	7	3
7	8	9	2	3	4	1	5	6
3	2	6	1	7	5	8	4	9

Rebus Puzzle

Page 7

1. Ok by me
2. A drive-in theater
3. One fine day

Send ideas and comments to:

APAEP
1061 Beard-Eaves
Memorial Coliseum
Auburn University, AL 36849

UNTIL NEXT TIME !